AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A transmission device ~~(150, 151, 152)~~ that induces an electric field based on data to be transmitted and transmits the data to be transmitted via the induced electric field, the transmission device comprising:

a transmission means ~~(3, 16)~~ configured to transmit a modulated signal obtained by modulating the data to be transmitted with an alternating signal having a predetermined frequency,

a transmission electrode ~~(8)~~ configured to induce an electric field based on the modulated signal in the electric field transmission medium ~~(20)~~,

a first reactance means ~~(2, 19)~~ provided between an output of the transmission means ~~(3, 16)~~ and the transmission electrode ~~(8)~~ so as to cause resonance with each of parasitic capacitance produced between a ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ and an earth ground ~~(14)~~, parasitic capacitance produced between the electric field transmission medium ~~(20)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~, and parasitic capacitance produced between the electric field transmission medium ~~(20)~~ and the earth ground ~~(14)~~, and

a second reactance means ~~(1, 21)~~ provided between the output of the transmission means ~~(3, 16)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ or between the transmission electrode ~~(8)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ so as to cause resonance with each of the parasitic capacitances.

2. (Currently amended) A transmission device as recited in claim 1, wherein either one of the first reactance means ~~(2, 19)~~ and the second reactance means ~~(1, 21)~~ is a variable reactance means of which reactance value is adjustable, and wherein there is provided a reactance control means ~~(22)~~ configured to control the reactance value of the variable reactance means so that a voltage which the transmission means ~~(3, 16)~~ applies to the electric field transmission medium ~~(20)~~ becomes peaked.

3. (Currently amended) A transmission device as recited in claim 1, wherein the first reactance means ~~(2, 19)~~ and the second reactance means ~~(1, 21)~~ are both a variable reactance means of which reactance value is adjustable, and wherein there is provided a reactance control means ~~(22)~~ configured to control each reactance value of the first reactance means ~~(2, 19)~~ and the second reactance means ~~(1, 21)~~ so that a voltage which the transmission means ~~(3, 16)~~ applies to the electric field transmission medium ~~(20)~~ becomes peaked.

4. (Currently amended) A transmission device as recited in claim 3, wherein the reactance control means ~~(22)~~ includes

an adjustment signal generation means ~~(24)~~ configured to generate an adjustment signal for use in adjustment of the reactance value,

an amplitude detection means ~~(25)~~ configured to use the adjustment signal outputted from the adjustment signal generation means ~~(24)~~ so as to detect an amplitude of the voltage,

a first control signal generation means ~~(28)~~ configured to output a control signal that controls a reactance value of the first variable reactance means ~~(2, 19)~~ in accordance with the amplitude detected by the amplitude detection means ~~(25)~~,

a second control signal generation means ~~(27)~~ configured to output a control signal that controls a reactance value of the second variable reactance means ~~(1, 21)~~ in accordance with the amplitude detected by the amplitude detection means ~~(25)~~, and

a connection means ~~(26)~~ configured to connect the amplitude detection means ~~(25)~~ with the first control signal generation means ~~(28)~~ in controlling of the reactance value of the first variable reactance means ~~(2, 19)~~ and to connect the amplitude detection means ~~(25)~~ with the second control signal generation means ~~(27)~~ in controlling of the reactance value of the second variable reactance means ~~(1, 21)~~.

5. (Currently amended) A transmission device as recited in claim ~~5~~ 3, wherein the second variable reactance means ~~(1, 21)~~ is provided between the transmission electrode ~~(8)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~,

wherein the reactance control means ~~(22)~~ controls to adjust each reactance value of the first variable reactance means ~~(2, 19)~~ and the second variable reactance means ~~(1, 21)~~ so that a voltage of the transmission applied to the electric field transmission medium becomes peaked and, after the reactance value of the second reactance means ~~(1, 21)~~ has been adjusted, the reactance control means ~~(22)~~ varies minutely the reactance value,

wherein there is provided a resistor ~~(33)~~ to be connected in series with the second variable reactance means ~~(1, 21)~~ and the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the second variable reactance means ~~(1, 21)~~, and

wherein there is provided a connection means ~~(32)~~ configured to connect the resistor ~~(33)~~ with the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the second variable reactance means ~~(1, 21)~~, and to connect the transmission means ~~(3, 16)~~ with the first variable reactance means ~~(2, 19)~~ and the resistor ~~(33)~~ with the ground ~~(29)~~ of the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the first variable reactance means ~~(2, 19)~~.

6. (Currently amended) A transmission device as recited in claim 3, wherein the second variable reactance means ~~(1, 21)~~ is provided between the output of the transmission means ~~(3, 16)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~,

wherein the reactance control means ~~(22)~~ controls to adjust each reactance value of the first variable reactance means ~~(2, 19)~~ and the second variable reactance means ~~(1, 21)~~ so that a voltage of the transmission applied to the electric field transmission medium ~~(20)~~ becomes peaked and, after the reactance value of the first reactance means ~~(2, 19)~~ has been adjusted, the reactance control means ~~(22)~~ varies minutely the reactance value, and

wherein there is provided a connection means ~~(18)~~ configured to disconnect the second variable reactance means ~~(1, 21)~~ from the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the first variable reactance means ~~(2, 19)~~ and to connect the second variable reactance means ~~(1, 21)~~ with the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the second variable reactance means ~~(1, 21)~~.

7. (Currently amended) A transmission device as recited in claim 3, wherein there is provided a self-adjusting variable reactance means ~~(52)~~ in either the first variable reactance means ~~(2, 19)~~ or the second variable reactance means ~~(1, 21)~~, the self-adjusting variable reactance means ~~(52)~~ including

a resonance circuit for causing resonance with the parasitic capacitances, the resonance circuit being provided with an inductor ~~(54)~~ and a variable capacitance diode ~~(56)~~ of which electrostatic capacitance varies in accordance with a voltage applied thereto, and

a resistor ~~(57)~~ for applying a voltage across the anode and the cathode of the variable capacitance diode, the voltage being in accordance with a direct current obtained by rectifying with the variable capacitance diode a transmission signal inputted to the resonance circuit, and

wherein a reactance value of either one of the first variable reactance means ~~(2, 19)~~ and the second variable reactance means ~~(1, 21)~~ is controlled by the reactance control means ~~(51)~~ so that a voltage of the transmission applied to the electric field transmission medium ~~(20)~~ becomes peaked, the either one of the variable reactance means being except for the self-adjusting variable reactance means ~~(52)~~.

8. (Currently amended) An electric field communication transceiver ~~(15)~~ that induces an electric field based on data to be transmitted in an electric field transmission medium ~~(20)~~ to transmit the data to be transmitted via the induced electric field and receives data to be received via an electric field based on the data to be received that is induced in the electric field transmission medium ~~(20)~~, the transceiver ~~(15)~~ comprising:

a transmission means ~~(3, 16)~~ configured to transmit a modulated signal obtained by modulating the data to be transmitted with an alternating signal having a predetermined frequency,

a transmission reception electrode ~~(8)~~ configured to induce an electric field based on the modulated signal in the electric field transmission medium ~~(20)~~ and receive electric field based on data to be received,

a first reactance means ~~(2, 19)~~ provided between the output of an transmission means ~~(3, 16)~~ and the transmission reception electrode ~~(8)~~ so as to cause resonance with each of parasitic capacitance produced between a ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ and an earth ground ~~(14)~~, parasitic capacitance produced between the electric field transmission medium ~~(20)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~, and parasitic capacitance produced between the electric field transmission medium ~~(20)~~ and the earth ground ~~(14)~~,

a second reactance means ~~(1, 21)~~ provided between the output of the transmission means ~~(3, 16)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ or between the

transmission reception electrode ~~(8)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ so as to cause resonance with each of the parasitic capacitances,

a reception means ~~(23)~~ configured to detect an electric field based on the data to be received, to convert the electric field into an electric signal, and to demodulate the signal so as to receive the data,

a first connection means ~~(31)~~ configured to disconnect a signal path from the output of the transmission means ~~(3, 16)~~ through the transmission reception electrode ~~(8)~~ so as to prevent leakage of a reception signal to the transmission means ~~(3, 16)~~ at the time of receiving and to connect the signal path from the output of the transmission means ~~(3, 16)~~ through the transmission reception electrode ~~(8)~~ so as to output a transmission signal to the transmission reception electrode ~~(8)~~ at the time of transmitting, and

a second connection means ~~(18)~~ configured to disconnect the second reactance means ~~(1, 21)~~ from the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ so as to prevent leakage of the reception signal to the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ at the time of receiving, and to connect the second reactance means ~~(1, 21)~~ with the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ so as to allow the second reactance means ~~(1, 21)~~ to cause resonance at the time of transmitting.

9. (Currently amended) An electric field communication transceiver as recited in claim 8, wherein either one of the first reactance means ~~(2, 19)~~ and the second reactance means ~~(1, 21)~~ is a variable reactance means of which capacitance value is variable, and

wherein there is provided a reactance means ~~(22)~~ configured to control a reactance value of the variable reactance means ~~(1, 2, 19, 21)~~ so that a voltage of the transmission which the transmission means ~~(3, 16)~~ applies to the electric field transmission medium ~~(20)~~ becomes peaked.

10. (Currently amended) An electric field communication transceiver as recited in claim 8, wherein the first reactance means ~~(2, 19)~~ and the second reactance means ~~(1, 21)~~ are a variable reactance means of which capacitance value are both a variable reactance means of which capacitance value is variable, and

wherein there is provided a reactance control means ~~(22)~~ configured to control each reactance value of the first reactance means ~~(2, 19)~~ and the second reactance means ~~(1, 21)~~ so that a voltage of the transmission that the transmission means ~~(3, 16)~~ applies to the electric field transmission medium ~~(20)~~ becomes peaked.

11. (Currently amended) An electric field communication transceiver as recited in claim 10, wherein the reactance control means ~~(22)~~ includes:

an adjustment signal generation means ~~(24)~~ configured to generate an adjustment signal for use in adjusting the reactance value,

an amplitude detection means ~~(25)~~ configured to use the adjustment signal outputted from the adjustment signal generation means ~~(24)~~ so as to detect an amplitude of a voltage of the transmission,

a first control signal generation means ~~(28)~~ configured to output based on the amplitude detected by the amplitude detection means ~~(25)~~ a control signal to control a reactance value of the first variable reactance means ~~(2, 19)~~,

a second control signal generation means ~~(27)~~ configured to output based on the amplitude detected by the amplitude detection means a control signal to control a reactance value of the second variable reactance means ~~(1, 21)~~, and

a connection means ~~(26)~~ configured to connect the amplitude detection means ~~(25)~~ with the first control signal generation means ~~(28)~~ in controlling of the reactance value of the first variable reactance means ~~(2, 19)~~ and to connect the amplitude detection means ~~(25)~~ with the second control signal generation means ~~(27)~~ in controlling of the reactance value of the second variable reactance means ~~(1, 21)~~.

12. (Currently amended) An electric field communication transceiver as recited in claim 10, wherein the second variable reactance means ~~(1, 21)~~ is provided between the transmission electrode ~~(8)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~,

wherein the reactance control means ~~(22)~~ controls to adjust each reactance value of the first variable reactance means ~~(2, 19)~~ and the second variable reactance means ~~(1, 21)~~ so that a voltage of the transmission applied to the electric field transmission medium ~~(20)~~ becomes peaked and, after the reactance value of the second reactance means ~~(1, 21)~~ has been adjusted, the reactance control means ~~(22)~~ varies minutely the reactance value, and

wherein there are provided a resistor ~~(33)~~ to be connected in series with the second reactance means ~~(2, 19)~~ and the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the second variable reactance means ~~(2, 19)~~, and a connection means ~~(32)~~ configured to connect the resistor ~~(33)~~ with the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the second variable reactance means ~~(1, 21)~~ and to connect the transmission means ~~(3, 16)~~ with the first variable reactance means ~~(1, 21)~~ and the resistor ~~(33)~~ with the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the first variable reactance means ~~(1, 21)~~.

13. (Currently amended) An electric field communication transceiver as recited in claim 10, wherein the second variable reactance means ~~(1,21)~~ is provided between the output of the transmission means ~~(3, 16)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~,

wherein the reactance control means ~~(22)~~ controls to adjust each reactance value of the first variable reactance means ~~(2, 19)~~ and the second variable reactance means ~~(1, 21)~~ so that a voltage of the transmission applied to the electric field transmission medium ~~(20)~~ becomes peaked and, after the reactance value of the first reactance means ~~(2, 19)~~ has been adjusted, the reactance control means ~~(22)~~ varies minutely the reactance value, and

wherein there is provided a connection means ~~(18)~~ configured to disconnect the second variable reactance means ~~(1, 21)~~ from the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the first variable reactance means ~~(2, 19)~~ and to connect the second variable reactance means ~~(1, 21)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the second variable reactance means ~~(1, 21)~~.

14. (Currently amended) An electric field communication transceiver as recited in claim 10, wherein there is provided a self-reactance means ~~(52)~~ in either the first variable reactance means ~~(2, 19)~~ or the second variable reactance means ~~(1, 21)~~, the self-reactance means ~~(52)~~ including

a resonance circuit for causing resonance with the parasitic capacitances, the resonance circuit being provided with an inductor ~~(54)~~ and a variable capacitance diode ~~(56)~~ of which electrostatic capacitance varies in accordance with a voltage applied thereto, and

a resistor ~~(57)~~ for applying a voltage across the anode and the cathode of the variable capacitance diode ~~(56)~~, the voltage being in accordance with a direct current obtained by rectifying with the variable capacitance diode ~~(56)~~ a transmission signal inputted to the resonance circuit, and

wherein a reactance value of either one of the first variable reactance means ~~(2, 19)~~ and the second variable reactance means ~~(1, 21)~~ is controlled by the reactance control means ~~(22)~~ so that a voltage of the transmission applied to the electric field transmission medium ~~(20)~~ becomes peaked, the either one of the variable reactance means being except for the self-adjusting variable reactance means ~~(52)~~.

15. (Currently amended) An electric field communication transceiver as recited in claim 10, wherein the second variable reactance means ~~(1, 21)~~ is provided between the transmission reception electrode ~~(8)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~,

wherein the reactance control means ~~(22)~~ controls to adjust each reactance value of the first variable reactance means ~~(2, 19)~~ and the second variable reactance means ~~(1, 21)~~ so that a voltage of the transmission applied to the electric field transmission medium ~~(20)~~ becomes peaked, and, after the reactance value of the second reactance means ~~(1, 21)~~ has been adjusted, the reactance control means ~~(22)~~ varies minutely the reactance value, and

wherein the first connect means ~~(31)~~ connects the resistor ~~(33)~~ with the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the second variable reactance means ~~(1, 21)~~; connects the transmission means ~~(3, 16)~~ with the first variable reactance means ~~(2, 19)~~ and the resistor ~~(33)~~ with the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the first variable reactance means ~~(2, 19)~~; and disconnects the first variable reactance means ~~(2, 19)~~ from the transmission means ~~(3, 16)~~ at the time of reception.

16. (Currently amended) An electric field communication transceiver as recited in claim 10, wherein the second reactance means ~~(1, 21)~~ is provided between the output of the transmission means ~~(3, 16)~~ and the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~,

wherein the reactance control means ~~(22)~~ controls to adjust each reactance value of the first variable reactance means ~~(2, 19)~~ and the second variable reactance means ~~(1, 21)~~ so that a voltage of the transmission applied to the electric field transmission medium ~~(20)~~ becomes peaked, and, after the reactance value of the first reactance means ~~(2, 19)~~ has been adjusted, the reactance control means ~~(22)~~ varies minutely the reactance value, and

wherein the second connection means ~~(18)~~ disconnects the second variable reactance means ~~(1, 21)~~ from the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the first variable reactance means ~~(2, 19)~~, and connects the

second variable reactance means ~~(1, 21)~~ with the ground ~~(6, 29)~~ of the transmission means ~~(3, 16)~~ at the time of adjusting a reactance value of the second variable reactance means ~~(1, 21)~~.

17. (Currently amended) An electric field communication transceiver as recited in ~~any one of claims~~ claim 8 ~~to 16~~, wherein an input to the reception means ~~(23)~~ is connected to the first connection means ~~(31)~~, and wherein the first connection means ~~(31)~~ disconnects a signal path from the transmission reception electrode ~~(8)~~ to the input of the reception means ~~(23)~~ at the time of transmission, and connects the signal path from the transmission reception electrode ~~(8)~~ to the input of the reception means ~~(23)~~.

18. (Currently amended) An electric field communication transceiver ~~(200)~~ that carries out data communication via an electric field induced in an electric field transmission medium ~~(215)~~, the transceiver comprising:

a resonance circuit that is provided with an inductor ~~(203)~~ for causing resonance in a transmission signal for the communication and a variable capacitance diode ~~(204)~~ of which electrostatic capacitance varies in accordance with a voltage applied thereto, and

a resistor ~~(205)~~ that generates a voltage in accordance with a direct current obtained by rectifying with the variable capacitance diode ~~(204)~~ the transmission signal inputted to the resonance circuit and applies the voltage across the anode and the cathode of the variable capacitance diode ~~(204)~~.

19. (Currently amended) An electric field communication transceiver ~~(200)~~ as recited in claim 18, wherein the resonance circuit causes resonance with parasitic capacitance between a ground ~~(218)~~ of the electric field communication transceiver ~~(200)~~ and an earth ground ~~(220)~~ and parasitic capacitance between the electric field transmission medium ~~(215)~~ and the earth ground ~~(220)~~.

20. (Currently amended) An electric field communication transceiver ~~(200)~~ as recited in claim 18 ~~or 19~~, wherein the inductor ~~(203)~~, the variable capacitance diode ~~(204)~~, and the resistor ~~(205)~~ are connected in series in the resonance circuit.

21. (Currently amended) An electric field communication transceiver as recited in claim 18 ~~or 19~~, wherein in the resonance circuit, the inductor ~~(203)~~ is connected in series with a circuit in which the variable capacitance diode ~~(204)~~ and the resistor ~~(205)~~ are connected.

22. (Currently amended) An electric field communication transceiver as recited in ~~any one of claims~~ claim 18 ~~to 21~~, wherein the inductor ~~(203)~~ arranges at one terminal or both terminals thereof a capacitor ~~(202, 206)~~ for blocking an input of a direct current thereto.

23. (Currently amended) An electric field communication transceiver ~~(335)~~ that induces an electric field based on data to be transmitted in a electric field transmission medium ~~(320)~~ so as to carry out data transmission by using the induced electric field and carries out data reception by receiving an electric field based on data to be received that is induced in the electric field transmission medium ~~(320)~~, the transceiver comprising:

a variable reactance means ~~(301)~~ configured to vary a reactance value so that a voltage of the transmission applied to the electric field transmission medium ~~(320)~~ so as to control resonance with parasitic capacitance between a ground of a transmission device ~~(326)~~ relating to the transmission and an earth ground and parasitic capacitance between the electric field transmission medium ~~(320)~~ and the earth ground,

an inductor ~~(315)~~ that composes a parallel resonance circuit in the variable reactance means ~~(301)~~ in order to obtain resonance, and

a plurality of variable capacitance means ~~(308, 312, 358, 359, 368, 370, 371, 373, 505, 506, 507, 508, 523, 524, 671)~~ of which capacitance is variable and which are connected in parallel with the inductor ~~(315)~~ and in series with one another so as to control the resonance in the parallel resonance circuit.

24. (Currently amended) An electric field communication transceiver ~~(335)~~ as recited in claim 23, wherein the variable capacitance means comprise two variable capacitance diodes ~~(308, 312; 368, 370; 371, 373; 523, 524; 505, 506; 507, 508)~~ having two nodes of the anode and cathode, wherein the anode of one of the two variable capacitance diodes is connected in series with the cathode of the other one of the two variable capacitance diodes via a capacitor ~~(310; 369; 372; 509; 510; 525)~~,

wherein the capacitor ~~(310; 369; 372; 509; 510; 525)~~ is short-circuited for a high frequency signal relating to data transmission, and thereby the inductor ~~(315)~~ and the variable capacitance diodes ~~(308, 312; 368, 370; 371, 373; 523, 524; 505, 506; 507, 508)~~ serve to operate as the parallel resonance circuit, and

wherein the variable capacitance diodes ~~(308, 312; 368, 370; 371, 373; 523, 524; 505, 506; 507, 508)~~ are insulated by the capacitor ~~(310; 369; 372; 509; 510; 525)~~ for a low frequency signal thereby to be connected in series with a signal source of the low frequency signal.

25. (Currently amended) An electric field communication transceiver as recited in claim 24, wherein in the variable capacitance means variable capacitance means ~~(370, 371; 506, 507)~~ having substantially the same configuration are connected at the anode thereof in series with each other with no capacitor ~~(310; 369; 372; 509; 510; 525)~~ intervened therebetween.

26. (Currently amended) An electric field communication transceiver as recited in claim 24 ~~or 25~~, wherein at least three or more of the variable capacitance diodes ~~(308, 312, 358, 359, 368, 310, 371, 373, 505, 506, 507, 508, 523, 524, 671)~~ are connected in series with one another.

27. (Currently amended) An electric field communication transceiver ~~(403)~~ that induces an electric field based on data to be transmitted in an electric field transmission medium ~~(401)~~ to carry out data communication by use of the electric field and carries out data reception via an electric field based on data to be received that is induced in the electric field transmission medium ~~(401)~~,

an alternating signal output means ~~(414)~~ configured to output an alternating signal having a first frequency,

a transmission reception electrode ~~(418)~~ configured to induce an electric field based on data to be transmitted so as to transmit the data, and to detect an electric field based on data to be received so as to receive the data,

a first reactance means ~~(408, 420)~~ provided between an output of the alternating signal output means ~~(414)~~ and the transmission reception electrode ~~(418)~~, the first reactance means causing resonance between parasitic capacitance between the transmission reception electrode ~~(418)~~ and an earth ground ~~(404)~~ and impedance that the electric field transmission medium ~~(401)~~ close to the transmission reception electrode ~~(418)~~ shares with the earth ground ~~(404)~~,

a second reactance means ~~(409, 421)~~ provided between the output of the alternating signal output means ~~(414)~~ and the earth ground ~~(404)~~ or between the transmission reception electrode ~~(418)~~ and the earth ground ~~(404)~~, the second reactance means ~~(409, 421)~~ causing resonance between parasitic capacitance between the transmission reception electrode ~~(418)~~ and the earth ground ~~(404)~~ and impedance that the electric field transmission medium ~~(401)~~ close to the transmission reception electrode ~~(418)~~ shares with the earth ground ~~(404)~~,

a reception means ~~(424)~~ configured to detect an electric field of an alternating signal having a second frequency different from the first frequency,

a first filter means ~~(425)~~ configured to allow passage of the alternating signal having the first frequency and to block the alternating signal having the second frequency, and

a second filter means ~~(426)~~ configured to allow passage of the alternating signal having the second frequency and to block the alternating signal having the first frequency.

28. (Currently amended) An electric communication transceiver as recited in claim 27, wherein either the first reactance means ~~(408, 420)~~ or the second reactance means ~~(409, 421)~~ is a variable reactance means of which reactance value is variable, and

wherein there is provided a reactance control means ~~(422)~~ configured to control a reactance value of the variable reactance means so that a voltage of the transmission applied to the electric field transmission medium ~~(401)~~ becomes peaked.

29. (Currently amended) An electric field communication transceiver as recited in claim 27, wherein the first reactance means ~~(408, 420)~~ and the second reactance means ~~(409, 421)~~ are a first variable reactance means ~~(408, 420)~~ and a second variable reactance means ~~(409, 421)~~ so that both of the reactance values thereof are variable, and

wherein there is provided a reactance control means ~~(422)~~ configured to control each reactance value of the first variable reactance means ~~(408, 420)~~ and the second variable reactance means ~~(409, 421)~~ so that a voltage of the transmission applied to the electric field transmission medium ~~(401)~~ becomes peaked.

30. (Currently amended) An electric field communication transceiver as recited in claims 28 ~~or 29~~, wherein the reactance control means ~~(422)~~ includes

a calculation control memory section ~~(435)~~ configured to store an amplitude of a transmission voltage applied to the electric field transmission medium ~~(401)~~ for each

reactance value of the first variable reactance means ~~(408, 420)~~ and the second variable reactance means ~~(409, 421)~~ and to extract a peak value of the amplitude, thereby to set each reactance value of the first variable reactance means ~~(408, 420)~~ and the second variable reactance means ~~(409, 421)~~, and

an amplitude detection means ~~(437)~~ configured to detect amplitude of the transmission voltage.

31. (Currently amended) An electric field communication transceiver as recited in claim 28 ~~or 29~~, wherein the reactance control means ~~(422)~~ includes

an adjustment signal generation means ~~(440)~~ configured to adjust each reactance value of the first variable reactance means ~~(408, 420)~~ and the second variable reactance means ~~(409, 421)~~,

an amplitude detection means ~~(437)~~ configured to detect an amplitude of a transmission voltage by use of the adjustment signal outputted from the adjustment signal generation means ~~(440)~~,

a first control signal generation means ~~(442)~~ configured to output a signal to control a reactance value of the first variable reactance means ~~(408, 420)~~ in accordance with the amplitude detected by the amplitude detection means ~~(437)~~,

a second control signal generation means ~~(443)~~ configured to output a signal to control a reactance value of the second variable reactance means ~~(409, 421)~~ in accordance with the amplitude detected by the amplitude detection means ~~(437)~~, and

a third connection means ~~(441)~~ configured to connect at least the amplitude detection means ~~(437)~~ with the first control signal generation means ~~(442)~~ when a reactance value of the first variable reactance means ~~(408, 420)~~ is controlled, and to connect at least the amplitude detection means ~~(437)~~ with the second control signal generation means ~~(443)~~ when a reactance value of the second variable reactance means ~~(409, 421)~~ is controlled.

32. (Currently amended) An electric field communication transceiver as recited in claim 27, wherein there are employed a self-adjusting variable reactance means ~~(445)~~ in either the first reactance means ~~(408, 420)~~ or the second reactance means ~~(409, 421)~~, the self-adjusting variable reactance means ~~(445)~~ including

a resonance circuit that is provided with an inductor ~~(447)~~ and a variable capacitance diode ~~(448)~~ of which electrostatic capacitance varies in accordance with a voltage applied thereto and configured to cause resonance with the parasitic capacitances, and

a resistor ~~(449)~~ configured to apply a voltage across the anode and the cathode of the variable capacitance diode ~~(448)~~, the voltage being generated by rectifying with the variable capacitance diode ~~(448)~~ a transmission signal inputted to the resonance circuit,

wherein the reactance control means ~~(422)~~ controls one of the variable reactance means so that a voltage of the transmission applied to the electric field transmission medium ~~(401)~~ becomes peaked, the one of the variable reactance means ~~(452)~~ being not the self-adjusting variable reactance means ~~(445)~~.

33. (Currently amended) An electric field communication transceiver as recited in ~~any one of claims~~ claim 29 ~~to 31~~, wherein both the first reactance means ~~(408, 420)~~ and the second reactance means ~~(409, 421)~~ employ a self-adjusting variable reactance means ~~(445)~~ including

a resonance circuit that is provided with an inductor ~~(447)~~ and a variable capacitance diode ~~(448)~~ of which electrostatic capacitance varies in accordance with a voltage applied thereto and configured to cause resonance with the parasitic capacitances, and

a resistor ~~(449)~~ applying a voltage across the anode and the cathode of the variable capacitance diode ~~(448)~~, the voltage being generated in accordance with a direct current obtained by rectifying the transmission signal inputted to the resonance circuit, and

wherein the reactance control means ~~(422)~~ controls one of the variable reactance means so that a voltage of the transmission applied to the electric field transmission medium

~~(401)~~ becomes peaked, the one of the variable reactance means ~~(452)~~ being not the self-adjusting variable reactance means ~~(445)~~.

34. (Currently amended) An electric field communication system ~~(400)~~ composed by combining the electric field communication transceiver ~~(403)~~ as recited in ~~any one of claims~~ claim 27 ~~to 32~~ with a second electric field communication transceiver ~~(402)~~, the second electric field communication transceiver ~~(402)~~ comprising:

a transmission reception electrode ~~(416)~~ configured to carry out induction of electric field based on data to be transmitted and reception of electric field based on data to be received,

a rectifying electric power storage means ~~(430)~~ configured to rectify an alternating signal having a first frequency, the signal being transmitted from the electric field communication transceiver ~~(403)~~, so as to generate a direct electric power and to output the electric power,

a transmission means ~~(431)~~ configured to modulate data to be transmitted with an alternating signal having a second frequency different from the first frequency so as to generate and transmit the modulated signal,

a control data storage means ~~(432)~~ configured to carry out storage of the data to be transmitted, output of the data to be transmitted to the transmission means, and control of the electric field communication transceiver,

a first filter means ~~(428)~~ configured to allow passage of an alternating signal having the first frequency and to block an alternating signal having the second frequency, and

a second filter means ~~(429)~~ configured to allow passage of an alternating signal having the second frequency and to block an alternating signal having the first frequency.

35. (Currently amended) An electric field communication system as recited in claim 34, wherein an alternating signal output means ~~(423)~~ of the electric field communication

transceiver ~~(403)~~ is comprised of a transmission means ~~(434)~~ configured to modulate the data to be transmitted with an alternating signal having the first frequency so as to generate and transmit the modulated signal, and

wherein the second electric field communication transceiver ~~(402)~~ is provided with a reception means ~~(433)~~ configured to detect an alternating field having the second frequency in accordance with the data to be received so as to convert the detected electric field into an electric signal and demodulate the electric signal.

36. (New) An electric field communication transceiver as recited in claim 29, wherein the reactance control means includes

a calculation control memory section configured to store an amplitude of a transmission voltage applied to the electric field transmission medium for each reactance value of the first variable reactance means and the second variable reactance means and to extract a peak value of the amplitude, thereby to set each reactance value of the first variable reactance means and the second variable reactance means, and

an amplitude detection means configured to detect amplitude of the transmission voltage.

37. (New) An electric field communication transceiver as recited in claim 29, wherein the reactance control means includes

an adjustment signal generation means configured to adjust each reactance value of the first variable reactance means and the second variable reactance means,

an amplitude detection means configured to detect an amplitude of a transmission voltage by use of the adjustment signal outputted from the adjustment signal generation means,

a first control signal generation means configured to output a signal to control a reactance value of the first variable reactance means in accordance with the amplitude detected by the amplitude detection means,

a second control signal generation means configured to output a signal to control a reactance value of the second variable reactance means in accordance with the amplitude detected by the amplitude detection means, and

a third connection means configured to connect at least the amplitude detection means with the first control signal generation means when a reactance value of the first variable reactance means is controlled, and to connect at least the amplitude detection means with the second control signal generation means when a reactance value of the second variable reactance means is controlled.